

UNIVERSITY OF CALIFORNIA, DAVIS

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SANTA BARBARA • SANTA CRUZ

OFFICE OF THE VICE CHANCELLOR FOR RESEARCH
ffyee@ucdavis.edu
cgwilim@ucdavis.edu
(530) 752-2075
FAX: (530) 752-5432

410 Mrak Hall, One Shields Avenue
DAVIS, CALIFORNIA 95616-8671

APR 08 1999

Ms. Lynn Deetz
Sponsored Projects Office
336 Sproul Hall, Mail Code 5940
University of California
Berkeley, CA 94720-5940

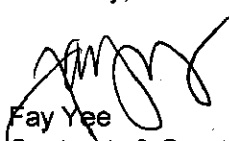
Dear Ms. Deetz:

Research Proposal Entitled
"Assessment of Pesticide Effects on Fish and Their Food Resources in the Sacramento-San Joaquin Delta"
Principal Investigator - **Don Weston, UCB**
Collaborating Principal Investigator - **Inge Werner, UCD**

We are pleased to forward concurrence of the planned involvement of UCD personnel and facilities in the reference proposal. The research efforts here will conduct under the supervision of Inge Werner.

If the referenced proposal results in funding, we shall expect to receive support from UCB in accordance with the policy on multiple campus projects pursuant to Contract and Grant Memo No. 84-34 Supplement 1, dated May 3, 1985.

Sincerely,


Fay Yee
Contracts & Grants Analyst

Enclosures

c: I. Werner
B.I. Osburn



United States Department of the Interior

U.S. GEOLOGICAL SURVEY

Water Resources Division

California District

Office of the District Chief

Placer Hall, 6000 J Street, Suite 2012

Sacramento, California 95819-6129

(916) 278-3000 Fax (916) 278-3070

<http://water.wr.usgs.gov>

April 8, 1999

Ms. Lynn Deetz
Sponsored Projects Office
University of California
336 Sproul Hall
Berkeley, California 94720-5940

Dear Ms. Deetz:

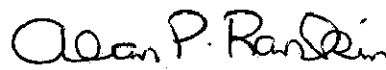
This letter confirms discussions between our respective staffs, concerning a new cooperative study involving the University of California (UC) and the U.S. Geological Survey (USGS) beginning in Federal Fiscal Year (FFY) 2000 (October 1, 1999 to September 30, 2000).

The USGS is pleased to collaborate with the UC on the project "Assessment of Pesticide Effects on Fish and their Food Resources in the Sacramento-San Joaquin Delta". The estimated cost of USGS work proposed during FFY's 2000-2002 is \$473,000. A detailed budget is enclosed identifying costs associated with the various elements of work.

If this collaborative work is agreed upon, the USGS will require a signed agreement before work can proceed by the USGS.

If you have any questions concerning this program, please contact Kathy Kuivila, in our Sacramento Project Office, at (916) 278-3054.

Sincerely,


for Michael V. Shulters
District Chief

Enclosures

cc: Dr. Donald Weston, Department of Integrative Biology, University of California,
3060 Valley Life Sciences Building, Berkeley, California 94720-3140



WICHITA STATE UNIVERSITY

Office of Research Administration

April 7, 1999

Ms. Lynn Deetz
Sponsored Projects Office
University of California
336 Sproul Hall
Berkeley, CA 94720-5940

Dear Ms. Deetz:

Wichita State University agrees to participate with the University of California-Berkeley in the proposal being submitted to CALFED Bay-Delta Program Office entitled *Assessment of Pesticide Effects on Fish and Their Food Resources in the Sacramento-San Joaquin Delta*. If a grant is awarded, Wichita State University will accept a subcontract to perform the work outlined in the proposal subject to all established regulations and procedures.

Wichita State University pledges the value of the second year of Dr. Lydy's EPA EPSCoR grant, *Evaluating the Effects of Pesticide Mixtures to Aquatic Organisms: Mechanisms of Synergistic Toxicity*, in the amount of \$134,710, as in-kind support of the proposed work.

Sincerely,

Gerald D. Loper
Associate Vice President for Research

GDL:erm
attachment

San Francisco



April 9, 1999

Ms. Lynn Deetz
Sponsored Projects Office
University of California
336 Sproul Hall
Berkeley CA 94720-5940

Dear Ms. Deetz

DeltaKeeper is pleased to be a collaborator taking part in the project sponsored by University of California as the Assessment of Pesticide Effects on Fish and their Food Resources in the Sacramento-San Joaquin Delta. DeltaKeeper has worked extensively during the last year with the U.C. Davis Aquatic Toxicology Laboratory on a Calfed-funded project to establish baseline data for toxicity in the Delta. We are delighted to support continuation of this important work by providing monitoring and data analysis support to the University of California and other collaborators. We look forward to working on a highly successful project.

Sincerely,

Michael Lozeau
Executive Director

cc: Marsha Mather-Thrift Development Director
Bill Jennings, DeltaKeeper



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento-San Joaquin Fisheries Resource Office

4001 North Wilson Way, Stockton, CA 95205-2486

209-946-6400 voice, 209-946-6002 fax



April 2, 1999

Dr. Donald Weston
University of California Berkeley
1301 South 46th Street, Building 112
Richmond, CA 94804

Dr. Weston;

Thank you for contacting the U.S. Fish and Wildlife Service concerning your study on the assessment of pesticide effects on fish and their food resources in the Sacramento-San Joaquin Delta. The importance of juvenile salmon prey availability and toxicity is of interest to the U.S. Fish and Wildlife Service.

Because this information may be of value in the protection and rehabilitation of chinook salmon, the Service is willing to accommodate your field collection and technical expertise needs during the course of your study. Several of the sampling locations indicated in your draft proposal are part of the U.S. Fish and Wildlife Service's ongoing juvenile chinook monitoring program. If your project is selected, we are willing to assist you with the collection of fall run juvenile salmon for the purposes of stomach analysis at these ongoing monitoring sites. Depending on current take restrictions and permitting requirements, listed species such as delta smelt, winter run chinook, and steelhead may be more difficult to obtain. The Service also is willing to provide some technical expertise on a limited basis.

If you should have any more questions, please don't hesitate to contact the Stockton Fishery Resource Office at (209) 946-6400.

Sincerely,

Jeffrey McLain
Supervisory Fishery Biologist

UNIVERSITY OF CALIFORNIA, DAVIS

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COLLEGE OF AGRICULTURAL AND
ENVIRONMENTAL SCIENCES
AGRICULTURAL EXPERIMENT STATION
(530) 752-0475
FAX: (530) 752-1537

DEPARTMENT OF ENTOMOLOGY
ONE SHIELDS AVENUE
DAVIS, CALIFORNIA 95616-8584

April 7, 1999

Dr. Don Weston
University of California
1301 S. 46th St., Bldg. 112
Richmond, CA 94804

Dear Dr. Weston:

This letter is written in support of the project entitled "Assessment of Pesticide Effects on Fish and their Food Resources in the Sacramento-San Joaquin Delta" by Drs. Don Weston, UC Berkeley and Inge Werner of the UC Davis Aquatic Toxicology Laboratory to CalFed. We are enthusiastic about providing immunoassays for the analysis of pesticides or their metabolites to their laboratory. My laboratory has been involved in the development of immunoassays for pesticides and pesticide metabolites for a number of years. The technology has been shown to be quantitative, adaptable to the field and is especially suited to the analysis of a large number of samples, such as may be generated in the proposed ecotoxicology study. To transfer this technology to users, such as the Aquatic Toxicology laboratory, is a major goal of our work. Thus we will provide both reagents and training in their use.

Our past collaborations, in which we have transferred assays for molinate and thiobencarb to the Aquatic Toxicology Laboratory, have been rewarding and we are pleased to continue these collaborations with Dr. Werner on the proposed project.

Sincerely,

A handwritten signature in cursive script that reads 'Bruce D. Hammock'.

Bruce D. Hammock
Professor of Entomology



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

April 14, 1999

Dr. Donald Weston
University of California, Berkeley
1301 S. 46th St., Bldg. 112
Richmond, CA 94804

Dear Dr. Weston,

I am writing in support of the research proposal entitled "Assessment of pesticide effects on fish and their food resources in the Sacramento-San Joaquin Delta". This three year project to evaluate the presence of significant amounts of pesticide residues in the Sacramento and San Joaquin Rivers and Delta using both standard and indigenous test species would be a highly valued research benefit to protecting aquatic resources in California. A paramount strength of this research proposal is it addresses the link between pesticides exposures based on previous monitoring and toxicological response data with additional studies with standard and indigenous species to further assess biomarker endpoints such as suppressed immune system responses with real world exposures based on in-situ testing. In addition, I can provide collaborative data examining the interactive toxicological responses of survival and behavioral responses of insecticides exposures to both the standard fish species and an indigenous fish species to enhance this research project.

The research has several advantages: (1) the research project has a demonstrated need and benefit to assist in achieving the CALFED goals, (2) the research will be conducted by a well balanced team of academic, government and private sector nationally known scientists with lots of previous experience and knowledge in directly in this field and (3) the project utilizes a sound scientific approach and standard test methods. I urge its full funding.

Sincerely,

A handwritten signature in black ink, appearing to read "Debra L. Denton".

Debra L. Denton
Environmental Scientist
USEPA Region 9 Toxicity Coordinator

UNIVERSITY OF CALIFORNIA, DAVIS

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SANTA BARBARA • SANTA CRUZ

COLLEGE OF AGRICULTURAL AND
ENVIRONMENTAL SCIENCES
AGRICULTURAL EXPERIMENT STATION
COOPERATIVE EXTENSION

DEPARTMENT OF WILDLIFE, FISH AND CONSERVATION BIOLOGY
ONE SHIELDS AVENUE
DAVIS, CALIFORNIA 95616-8751
FAX (530) 752-4154

13 April 1999

CALFED Bay-Delta Program
1416 Ninth St
Sacramento CA 95814

Dear Colleagues:

This letter is written in support of the project entitled "Assessment of pesticide effects on fish and their food resources in the Sacramento-San Joaquin Delta" by Dr. Don Weston and his interdisciplinary team of university scientists, the USGS and Deltakeeper, a non-profit organization. I am enthusiastic about their approach to answering the important question of how pesticides and mixtures of pesticides influence populations of native fish species such as chinook salmon, and their food resources. The combination of ecological tools with standard toxicity testing and modern molecular techniques will enable them to detect acute as well as chronic effects, which will yield important information for both the scientific community and regulatory agencies.

This is the kind of research that needs to be done in order to develop a proper ecosystem recovery plan for the estuary. The information should be useful in formulating adaptive management strategies.

Sincerely,

A handwritten signature in black ink, appearing to read "P. B. Moyle", is written over a large, stylized circular flourish.

Peter B. Moyle
Professor

UNIVERSITY OF CALIFORNIA, DAVIS

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SANTA BARBARA • SANTA CRUZ

DEPARTMENT OF ENVIRONMENTAL SCIENCE AND POLICY

ONE SHIELDS AVENUE
DAVIS, CALIFORNIA 95616-8576

Dr. Don Weston
University of California
Richmond Field Station
1301 S. 46th St., Bldg. 112
Richmond, CA 94804

Fax: (510) 643-6264

15 April 1999

Dear Dr. Weston,

This letter is written in support of the proposed project entitled "Assessment of Pesticide Effects on Fish and Their Food Resources in the Sacramento-San Joaquin Delta" on which you, as Principal Investigator, will work with an interdisciplinary team of university scientists, the USGS and Deltakeeper, a non-profit organization.

Our own team recently embarked on a study of the food resources for secondary production in the Sacramento-San Joaquin Delta. This research is supported by a CALFED Category III grant, as well as by the USGS and Center for Ecological Health Research at UC Davis. The goals of this project are to identify the sources, quantity and quality of organic matter and its availability to secondary producers in different Delta habitats. While our study evaluates the nutritional quality of Delta habitats for primary consumers, it is not specifically designed to assess the effects of toxins on habitat quality for secondary production, nor will it answer the question of how dissolved organic matter influences toxicity of these compounds. Understanding the effects of pesticides on resident consumers in the Delta such as native fish, zooplankton and benthic invertebrates is an essential part of a complete evaluation of Delta habitats for these organisms and the implementation of effective management strategies.

We believe that the proposed study on pesticide effects in the Delta will yield highly useful information. The combination of ecological tools with standard toxicity testing and modern molecular techniques will allow detection of acute as well as chronic effects, yielding important information for both the scientific community and regulatory agencies. Further, the proposed study complements our own study in various aspects.

We therefore strongly support your proposal and look forward to collaboration on these issues.

Sincerely,



Alan Jassby
Research Ecologist

DEPARTMENT OF WATER RESOURCES

ENVIRONMENTAL SERVICES OFFICE
3251 S STREET
SACRAMENTO, CA 95818-7017

**To Whom It May Concern:**

This is a letter of support for a proposal to conduct an assessment of pesticide effects on fish and their food resources in the Sacramento-San Joaquin Delta. The impacts to fisheries in the San Francisco Bay-Delta system are generally considered to be the result of the cumulative impacts of multiple stressors. Some stressors, such as water diversion impacts, have been extensively studied. Other stressors, such as effects of toxic compounds, have been less extensively studied. As you know, it is impossible to assess the importance of any potential stressor without appropriate data on its environmental effects. The relative impact of contaminants on local invertebrates commonly utilized as prey by fishes in the delta is unknown. If funded, this study would help fill this information gap.

The proposed study will provide:

- Baseline data on the susceptibility of locally important prey invertebrates to commonly used toxic substances
- Field data on the actual toxicity of delta water samples to chinook salmon and invertebrates commonly eaten by salmon and other fishes
- Important information on "real-world" interactions of toxic substances with each other as well as with carbon sources present in delta water. This will allow for greater confidence in the interpretation of toxicity data.

CALFED would benefit from the comprehensive toxicity dataset this study will provide. A broad information base is essential for making informed and appropriate decisions regarding restoration of natural resources in the San Francisco Bay-Delta ecosystem.

Matthew L. Nobriga

A handwritten signature in black ink, appearing to read "Matthew L. Nobriga".

Environmental Specialist II

LOCAL NOTIFICATION

The following letter has been sent to the County Board of Supervisors and the County Planning Department in Contra Costa, Merced, San Joaquin, Solano, Stanislaus and Yolo counties.

Dear Sirs:

The University of California, Berkeley is submitting a proposal to CALFED entitled "Assessment of Pesticide Effects on Fish and Their Food Resources in the Sacramento-San Joaquin Delta". CALFED has requested that all investigators submitting proposals to CALFED notify the Board of Supervisors and Planning Departments in counties in which work will be conducted. This letter serves to provide that notification.

The proposed project is a collaborative effort among investigators at the University of California, US Geological Survey, Deltkeeper, Wichita State University, and with sampling assistance provided by the US Fish and Wildlife Service. We are studying the toxicity of pesticides in surface waters to resident invertebrate species and the fish which feed upon them, particularly chinook salmon. Part of the proposed work involves collection of samples throughout the Delta, Sacramento and San Joaquin Rivers and their tributaries, and it is possible that we may be collecting from water bodies within the boundaries of your county. Work to be done on site includes collection of water samples, placement of cages containing salmon or invertebrates in a creek or river for short periods, and fish seining done in conjunction with US Fish and Wildlife Service as part of their regular monitoring program.

CALFED will make the funding decisions later this summer, and if our study is funded, work will be performed from fall 1999 through fall 2002. If you have any questions please call me at 510-231-5626.

Donald P. Weston

The following letter has been sent to the Delta Protection Commission and Bay Conservation and Development Commission

Dear Sirs:

The University of California, Berkeley is submitting a proposal to CALFED entitled "Assessment of Pesticide Effects on Fish and Their Food Resources in the Sacramento-San Joaquin Delta". CALFED has requested that all investigators submitting proposals to CALFED notify the Commission of the proposed work. This letter serves to provide that notification.

The proposed project is a collaborative effort among investigators at the University of California, US Geological Survey, Deltkeeper, Wichita State University, and with sampling assistance provided by the US Fish and Wildlife Service. We are studying the toxicity of pesticides in surface waters to resident invertebrate species and the fish which feed upon them, particularly chinook salmon. Part of the proposed work involves collection of samples throughout the Delta, Sacramento and San Joaquin Rivers and their tributaries. Work to be done on site includes collection of water samples, placement of cages containing salmon or invertebrates in a creek or river for short periods, and fish seining done in conjunction with US Fish and Wildlife Service as part of their regular monitoring program.

CALFED will make the funding decisions later this summer, and if our study is funded, work will be performed from fall 1999 through fall 2002. If you have any questions please call me at 510-231-5626.

Donald P. Weston

State of California

DEPARTMENT OF WATER RESOURCES

The Resources Agency

Agreement No. _____

Exhibit _____

**STANDARD CLAUSES -
INTERAGENCY AGREEMENTS**

Audit Clause. For contracts in excess of \$10,000, the contracting parties shall be subject to the examination and audit of the State Auditor for a period of three years after final payment under the contract. (Government Code Section 8546.7).

Availability of Funds. Work to be performed under this contract is subject to availability of funds through the State's normal budget process.

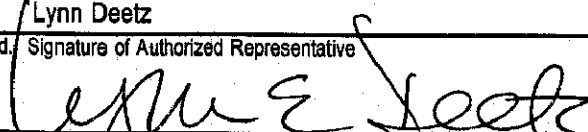
Interagency Payment Clause. For services provided under this agreement, charges will be computed in accordance with State Administrative Manual Section 8752 and 8752.1.

Termination Clause. Either State agency may terminate this contract upon 30 days advance written notice. The State agency providing the services shall be reimbursed for all reasonable expenses incurred up to the date of termination.

Severability. If any provision of this Agreement is held invalid or unenforceable by any court of final jurisdiction, it is the intent of the parties that all other provisions of this Agreement be construed to remain fully valid, enforceable, and binding on the parties.

Y2K Language. The Contractor warrants and represents that the goods or services sold, leased, or licensed to the State of California, its agencies, or its political subdivisions, pursuant to this Agreement are "Year 2000 compliant" For purposes of this Agreement, a good or service is year 2000 compliant if it will continue to fully function before, at, and after the Year 2000 without interruption and, if applicable, with full ability to accurately and unambiguously process, display, compare, calculate, manipulate, and otherwise utilize date information. This warranty and representation supersedes all warranty disclaimers and limitations and all limitations on liability provided by or through the Contractor.

APPLICATION FOR
FEDERAL ASSISTANCE

1. TYPE OF SUBMISSION: <i>Application</i> <input type="checkbox"/> Construction <input checked="" type="checkbox"/> Non-Construction		2. DATE SUBMITTED		Application Identifier											
		3. DATE RECEIVED BY STATE		State Application Identifier											
<i>Preapplication</i> <input type="checkbox"/> Construction <input type="checkbox"/> Non-Construction		4. DATE RECEIVED BY FEDERAL AGENCY		Federal Identifier											
5. APPLICATION INFORMATION															
Legal Name The Regents of the University of California			Organizational Unit University of California, Berkeley; Dept. of Integrative Biology												
Address (give city, county, state, and zip code) University of California, Berkeley Sponsored Projects Office 336 Sproul Hall, Alameda County Berkeley, CA 94720-5940			Name and telephone number of the person to be contacted on matters involving this application (give area code) Administrative Contact Technical Contact Lynn Deetz Donald P. Weston, Ph.D. (510) 643-6113 510-231-5626												
6. EMPLOYER IDENTIFICATION NUMBER (EIN): <table border="1" style="width:100%; text-align: center;"> <tr><td>9</td><td>4</td><td>-</td><td>6</td><td>0</td><td>0</td><td>2</td><td>1</td><td>2</td><td>3</td></tr> </table>			9	4	-	6	0	0	2	1	2	3	7. TYPE OF APPLICANT: (enter appropriate letter in box) I <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> A. State B. County C. Municipal D. Township E. Interstate F. Intermunicipal G. Special District </div> <div style="width: 45%;"> H. Independent School Dist. I. State Controlled Institution of Higher Learning J. Private University K. Indian Tribe L. Individual M. Profit Organization N. Other (Specify): _____ </div> </div>		
9	4	-	6	0	0	2	1	2	3						
8. TYPE OF APPLICATION: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision If Revision, enter appropriate letter(s) in boxes(es) <input type="checkbox"/> <input type="checkbox"/> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div style="width: 30%;">A. Increase Award D. Decrease Duration</div> <div style="width: 30%;">B. Decrease Award Other (specify): _____</div> <div style="width: 30%;">C. Increase Duration</div> </div>			9. NAME OF FEDERAL AGENCY: CALFED												
10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: <table border="1" style="width:100%; text-align: center;"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> TITLE: _____													11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT: Assessment of Pesticide Impacts on Fish and Their Food Resources in the Sacramento-San Joaquin Delta FDP-II		
12. AREAS AFFECTED BY PROJECT (cities, counties, states, etc.) Contra Costs, Solano, Sacramento, & San Joaquin Counties, CA															
13. PROPOSED PROJECT:		14. CONGRESSIONAL DISTRICTS OF:													
Start Date 10/01/99	Ending Date 9/30/02	a. Applicant 9th		b. Project 9th											
15. ESTIMATED FUNDING:		16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?													
a. Federal	\$1,875,561	a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON: DATE _____ b. NO. <input checked="" type="checkbox"/> PROGRAM IS NOT COVERED BY E.O. 12372 <input type="checkbox"/> OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW													
b. Applicant	\$ 155,010														
c. State	\$														
d. Local	\$														
e. Other	\$														
f. Program Income	\$	17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?													
g. TOTAL	\$2,030,571	<input type="checkbox"/> Yes If "Yes," attach an explanation. <input checked="" type="checkbox"/> No													
18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED															
a. Typed Name of Authorized Representative Lynn Deetz		b. Title Senior Research Administrator		c. Telephone number (510) 643-6113											
d. Signature of Authorized Representative 				e. Date Signed 4/15/99											

OMB Approval No. 0348-0044

BUDGET INFORMATION – Non-Construction Programs

SECTION A - BUDGET SUMMARY						
Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. Ecosystem Restoration Program		\$	\$	\$ 1,875,561	\$ 20,300	\$ 1,895,861
2.						
3.						
4.						
5. TOTALS		\$	\$	\$ 1,875,561	\$ 20,300	\$ 1,895,861
SECTION B - BUDGET CATEGORIES						
6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY					TOTAL
	(1) Total Project	(2)	(3)	(4)	(5)	(6)
a. Personnel	217,390	0	0	0	0	217,390
b. Fringe Benefits	40,942	0	0	0	0	40,942
c. Travel	4,950	0	0	0	0	4,950
d. Equipment	14,000	0	0	0	0	14,000
e. Supplies	32,000	0	0	0	0	32,000
f. Contractual	1,356,360	0	0	0	0	1,356,360
g. Construction	0	0	0	0	0	0
h. Other	20,100	0	0	0	0	20,100
i. Total Direct Charges (Sum of 6a - 6h)	1,685,742	0	0	0	0	1,685,742
j. Indirect Charges	189,819	0	0	0	0	189,819
k. TOTALS (Sum of 6i and 6j)	\$ 1,875,561	\$ -	\$ -	\$ -	\$ -	\$ 1,875,561
7. Program Income	\$	\$	\$	\$	\$	\$

SECTION C - NON-FEDERAL RESOURCES					
(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS	
8. Ecosystem Restoration Program	\$ 20,300	\$	\$	\$ 20,300	
9.					
10.					
11.					
12. TOTALS (sum of lines 8 and 11)	\$ 20,300	\$	\$	\$ 20,300	

SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$ 676,721	\$ 69,933	\$ 220,045	\$ 188,762	\$ 197,981
14. NonFederal					
15. TOTALS (sum of lines 13 and 14)	\$ 676,721	\$ 69,933	\$ 220,045	\$ 188,762	\$ 197,981

SECTION E - BUDGET ESTIMATES OF FEDERAL NEEDS FOR BALANCE OF THE PROJECT					
(a) Grant Program	FUTURE FUNDING PERIODS (Years)				
	(b) First	(c) Second	(d) Third	(e) Fourth	(f) Fifth
16. Ecosystem Restoration Program	\$ 676,721	\$ 681,082	\$ 517,758		
17.					
18.					
19.					
20. TOTALS (sum of lines 16 - 19)	\$ 676,721	\$ 681,082	\$ 517,758		

SECTION F - OTHER BUDGET INFORMATION	
(Attach additional sheets if necessary)	
21. Direct Charges: \$1,685,742	22. Indirect Charges: \$189,819
23. Remarks:	

Indirect Costs are calculated at a rate of 50.4% of Modified Total Direct Costs (i.e., less equipment & less subcontract amounts over initial \$25,000).

U.S. Department of the Interior

**Certifications Regarding Debarment, Suspension and
Other Responsibility Matters, Drug-Free Workplace
Requirements and Lobbying**

Persons signing this form should refer to the regulations referenced below for complete instructions:

Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions - The prospective primary participant further agrees by submitting this proposal that it will include the clause titled, "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions. See below for language to be used; use this form for certification and sign; or use Department of the Interior Form 1954 (DI-1954). (See Appendix A of Subpart D of 43 CFR Part 12.)

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions - (See Appendix B of Subpart D of 43 CFR Part 12.)

Certification Regarding Drug-Free Workplace Requirements - Alternate I. (Grantees Other Than Individuals) and Alternate II. (Grantees Who are Individuals) - (See Appendix C of Subpart D of 43 CFR Part 12)

Signature on this form provides for compliance with certification requirements under 43 CFR Parts 12 and 18. The certifications shall be treated as a material representation of fact upon which reliance will be placed when the Department of the Interior determines to award the covered transaction, grant, cooperative agreement or loan.

**PART A: Certification Regarding Debarment, Suspension, and Other Responsibility Matters -
Primary Covered Transactions**

CHECK ☒ IF THIS CERTIFICATION IS FOR A PRIMARY COVERED TRANSACTION AND IS APPLICABLE.

- (1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
 - (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
 - (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- (2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

**PART B: Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion -
Lower Tier Covered Transactions**

CHECK ☐ IF THIS CERTIFICATION IS FOR A LOWER TIER COVERED TRANSACTION AND IS APPLICABLE.

- (1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

PART C: Certification Regarding Drug-Free Workplace Requirements

CHECK ___ IF THIS CERTIFICATION IS FOR AN APPLICANT WHO IS NOT AN INDIVIDUAL

Alternate I. (Grantees Other Than Individuals)

A. The grantee certifies that it will or continue to provide a drug-free workplace by:

- (a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;
- (b) Establishing an ongoing drug-free awareness program to inform employees about--
 - (1) The dangers of drug abuse in the workplace;
 - (2) The grantee's policy of maintaining a drug-free workplace;
 - (3) Any available drug counseling, rehabilitation, and employee assistance programs; and
 - (4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;
- (c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);
- (d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will --
 - (1) Abide by the terms of the statement; and
 - (2) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;
- (e) Notifying the agency in writing, within ten calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every grant officer on whose grant activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice shall include the identification numbers(s) of each affected grant;
- (f) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted --
 - (1) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or
 - (2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;
- (g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a) (b), (c), (d), (e) and (f).

B. The grantee may insert in the space provided below the site(s) for the performance of work done in connection with the specific grant:

Place of Performance (Street address, city, county, state, zip code)

Check ___ if there are workplaces on file that are not identified here.

PART D: Certification Regarding Drug-Free Workplace Requirements

CHECK ___ IF THIS CERTIFICATION IS FOR AN APPLICANT WHO IS AN INDIVIDUAL

Alternate II. (Grantees Who Are Individuals)

- (a) The grantee certifies that, as a condition of the grant, he or she will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any activity with the grant;
- (b) If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, he or she will report the conviction, in writing, within 10 calendar days of the conviction, to the grant officer or other designee, unless the Federal agency designates a central point for the receipt of such notices. When notice is made to such a central point, it shall include the identification number(s) of each affected grant

PART E: Certification Regarding Lobbying
Certification for Contracts, Grants, Loans, and Cooperative Agreements

CHECK IF CERTIFICATION IS FOR THE AWARD OF ANY OF THE FOLLOWING AND THE AMOUNT EXCEEDS \$100,000: A FEDERAL GRANT OR COOPERATIVE AGREEMENT; SUBCONTRACT, OR SUBGRANT UNDER THE GRANT OR COOPERATIVE AGREEMENT.

CHECK IF CERTIFICATION IS FOR THE AWARD OF A FEDERAL LOAN EXCEEDING THE AMOUNT OF \$150,000, OR A SUBGRANT OR SUBCONTRACT EXCEEDING \$100,000, UNDER THE LOAN.

The undersigned certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

As the authorized certifying official, I hereby certify that the above specified certifications are true.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL



TYPED NAME AND TITLE

Lynn E. Deetz
Senior Research Administrator
Sponsored Projects Office
University of California
Berkeley Campus

DATE

4/15/99

ASSURANCES - NON-CONSTRUCTION PROGRAMS

OMB Approval No. 0348-004

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

I, as the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).
14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL

TITLE

Lynn E. Deetz
Senior Research Administrator

APPLICANT ORGANIZATION

DATE SUBMITTED

THE UNIVERSITY OF CALIFORNIA

4/15/99